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ABSTRACT

A survey instrument was sent to 527 administrators of seven types of community college allied health programs and to 451 administrators of eight types of senior college allied health programs. Usable responses were received from 253 (48%) of the community college and 201 (46%) of the senior college administrators. Respondents rated the usefulness of 24 administrative competencies to their role as allied health administrators, and indicated how they learned the behaviors associated with each competency. While senior college administrators rated the 24 competencies as more useful to them than the community college administrators, a consistent pattern of ratings was found for each item and for all items considered together. Training "on the job" and "as a student, augmented by on the job experience" were reported as the general modes for learning the 24 behaviors. A large percentage of both groups reported "no training" in the competencies, and the fewest number of respondents reported formal training "as a student", with senior college administrators reporting smaller percentages of formal training than the community college administrators. In addition, an increase in the usefulness ratings of the competencies were found with each increasing level of prior or formal training, indicating that with each level there is a correspondingly greater appreciation of the utility of administrative competencies in general. (LH)

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COMPETENCIES FOR EDUCATIONAL ADMINISTRATORS IN THE ALLIED HEALTH FIELDS

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Big criteria have little criteria
upon their backs to bite 'em.
The small ones have still smaller,
and so on ad infinitum.

Elizabeth Herzog
(As quoted by
Robert E. Stake.)

The movement for Competency Based Education (CBE) (often called Performance Based Education) has been accelerating over the last decade. A major statement of definition for teacher education can be found in Elam (1971) and the topic is treated comprehensively in Houston (1974). Other works can be found which cover special aspects of the subject and include lengthy bibliographies (Menges, 1975; Stake, 1970). A volume devoted entirely to criticism of CBE has recently been published (Smith, 1975).

Although the current surge of interest in CBE has been motivated by the need for better teacher preparation, the CBE movement covers a range of occupational endeavor which spans plumbing to medicine. Indeed, competency statements have been available in medicine since 1953, and can be traced back perhaps another decade (Comroe, 1961; Association of American Medical Colleges, 1953). Other medical specialities, notably nursing, dentistry, and pharmacy, are developing performance and competency based measures with which to assess student proficiency (Menges, 1975).

This paper will present data on two sets of competency statements designed for educational administrators in the allied health fields. As such, it surveys two interesting attempts to adapt the competency

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statement, as developed for the teaching profession, to the field of allied health with particular reference to the education of administrators. Specifically, the paper presents an analysis of responses of a national survey of educational administrators in the allied health fields toward a well-defined set of competency statements.

1. The Florida Catalog of Teacher Competencies and Development of Competency Statements.

Although competency statements have been developed for a variety of learning situations, the development of specific statements is perhaps most advanced in the field of teacher training. The statements analyzed in this paper owe their form and inspiration to the pattern and format of competency statements found in The Florida Catalog of Teacher Competencies (Florida Department of Education, 1973).

The "Florida Catalog" is a compendium of 1301 competency statements listed, indexed, and sorted according to several schema. The source of each item is given, and items are cross-indexed under several headings. The administrative competency statements analyzed in this paper were constructed in a way that would make them compatible with a list of competency statements for teachers in the allied health fields, which, in turn, were paraphrases of actual statements found in the Catalog.

2. Concurrent Development of Two Sets of Administrative Competency/Behavior Statements.

The two lists of competency statements presented in this paper were developed independently and, it seems, concurrently. These lists represent the current state of the art. Development of both sets of statements was supported by the W.K. Kellogg Foundation, as was the analysis which follows.*

2A. The Gainesville Statements: Product of a Symposium

Like the Catalog, the Gainesville statements were also developed in Florida. Under the direction of Drs. Margaret K. Morgan and Albert

*Support by the W.K. Kellogg Foundation in no way implies responsibility for the content of the statements or the results of this research.

A. Canfield, a conference was held in Gainesville in mid-1972 in which several deans and directors of allied health programs were invited to present prepared papers on their expectations of administrative capabilities in several fields. The papers were then analyzed for content and a list of 150 competency (expectation) statements developed. The statements were then reduced in number by a team of judges who, after screening statements for redundancy, seemingly agreed upon the resulting list (Morgan and Canfield, 1972).

The 52 statements resulting from the Gainesville conference are given in Table 1. The statements have been copied as they appear in Morgan and Canfield (1972) and are given in their entirety for purposes of completeness and comparison. The numbering system attached to the statements in Table 1 has been added for convenience and taxonomy. Such a taxonomy will permit easier comparison with the statements developed in San Francisco. The statement numbering scheme will be important for interpreting Figure 1.

2B. The San Francisco Statements: Development of the Statements.

During the spring of 1973 the personnel of the Kellogg funded Allied Health Teachers and Administrators Educational Project in San Francisco were engaged in curriculum development.* Like the Gainesville curriculum developers, they found it necessary to determine just what it was that was important for an educational administrator in an allied health field to know. The tactic decided upon was a list of competency statements whose usefulness could be rated by the functioning administrator in an educational setting.

Development of a list of competency statements followed from interviews with a number of allied health administrators in the San Francisco Bay Area. Statements were gathered and analyzed for content

*Credit for the statements and the collection of data used in this paper should be given to Dr. Michael A. Lawler and Mr. Karl Heiner, who, working with Dr. Robert E. Tumelty, Project Coordinator, and Dr. Edwin F. Rosinski, Project Director, made this presentation possible. Interpretation of these data is entirely my own.

Table I. Administrative Competencies in Education and the Allied Health Professions Generated at the University of Florida, Gainesville.*

I. The Administrator as Group Leader

1. Formulate long range plans and objectives for the achievement of organizational goals, and adopt a style of leadership that will aid in the accomplishment of those goals.
2. Understand the nature and purpose of organizational policy and have the skills needed to involve the organization in its development, implementation, and evaluation.
3. Identify the relative importance of decisions considering the pace of events affecting the organization, and make decisions based on imputs from primary sources.
4. Recognize such constraints as traditionalism, resistance, conflict, limited resources, and "middle management constipation", and utilize effective problem solving procedures to minimize those constraints in achieving constructive action.
5. Apply democratic ideals in the conduct of the organization's operation through recognition of the basic dignity, worth, and contribution of others with whom he works --below, parallel to, and above-- in the organization.
6. Provide an operating environment which permits lateral or horizontal mobility, while maintaining a reward system so highly skilled technicians and talented teachers feel the inherent worth of their non-administrative assignments.
7. Establish and maintain acceptable and efficient delegations of authority and clearly differentiated levels of responsibility while assuming individual accountability for results obtained.

II. The Administrator as Resource Developer

1. Achieve the objectives of the organization by maintaining a continuously capable staff through valid selection, preparation, compensation, and reward systems.
2. Recognize and utilize the special skills and leadership talents of other personnel within the organization.
3. Equate work assignments with the amount and level of personnel needed to carry out the work load.
4. Integrate and consolidate the needs of individuals and departments to achieve the most significant goals for the organization.
5. Explain the program to other community agencies, relating programs to other services and agencies which serve the same area.
6. Utilize lay and professional advisory committees in the establishment of objectives and the evaluation of achievement.
7. Identify goverment resources, needs, thrusts, and constraints as they affect organizational programs and research.
8. Identify and prepare approaches to agencies for the procurement of supplemental grants and related support funds.

Table 1 (cont'd). Administrative Competencies...Gainesville.

III. The Administrator as Communicator

1. Maintain a receptivity and accessibility to others in the organization.
2. Utilize group techniques, minutes of meetings, memoranda, and other media, to communicate effectively with faculty, students, peers, and superiors concerning organizational goals, objectives, needs, problems, and solutions.
3. Provide information within the organization and to the public concerning existing and emerging conditions in the health care field at local, state, and national levels.
4. Organize presentations, written and spoken, which effectively convey the ideas, feelings, and needs of the organization and its personnel.
5. Prepare articles, monographs, or newsletters which conform to the requirements of appropriate "style manuals."
6. Conduct conferences or meetings utilizing techniques to assure involvement of participants, information sharing, problem-solving, and decision-making techniques.
7. Have familiarity with the basic technical language of the fields or disciplines represented by persons for whom organizational responsibility is held.
8. Utilize basic illustrative techniques and materials (graphs, transparencies, slides, etc.) to emphasize or dramatize presentations.

IV. The Administrator as Educator

1. Achieve the acceptance of peers as a teacher in a discipline, while releasing identification with that specialty in order to develop the talents of others over whom leadership has been accepted.
2. Provide leadership to the faculty in establishing realistic goals for growth, improvement and achievement, and assist in motivating and rewarding them in the achievement of those goals.
3. Judge the effectiveness of the program and encourage and facilitate the thoughtful development and revision of the curriculum.
4. Judge the potential of an applicant to perform as a student and to become an effective professional, taking into consideration his affective, cognitive, and psychomotor talents.
5. Describe the needs of potential employers of his graduates and judge the relative potential of those graduates in the professional environment.
6. Evaluate the effectiveness of the program.
7. Encourage the conduct and publication of research relating to teaching, treatment, or the discipline itself.
8. Maintain current proficiency and continued growth and development of the field and of the individual faculty member.

Table 1 (cont'd). Administrative Competencies...Gainesville

V. The Administrator as Health Care Supervisor

1. Differentiate between quantitative and qualitative factors in patient care, and communicate this difference to his subordinates, peers, and superiors.
2. Utilize patient reports in the development of an evaluation system through which patient needs are related to the kind of services possible and levels of personnel available.
3. Measure change which occurs in a patient as a result of treatment.
4. Recognize the essence of professional behavior and responsibility as they relate to patient care and communicate it to other hospital personnel.
5. Recognize and operate within the multiple hierarchies (functional, technical, and social) which exist within the health care field and health care educational enterprise.
6. Observe all pertinent legislation pertaining to the proper functioning of his unit, including protecting the patient's right to privacy.

VI. The Administrator as Fiscal Officer

1. Understand the budget system.
2. Know cost/benefit effectiveness and how to implement that knowledge for efficient departmental operations.
3. Represent and explain organizational needs for and the utilization of funds and assets to the staff and to higher administration.
4. Relate program objectives to financial considerations and relate costs to comparative anticipated service.
5. Reduce duplication and overlap in services, personnel, and activities.

VII. The Administrator as Evaluator

1. Evaluate the effectiveness of the staff, monitoring and supervising work to assure the achievement of assigned tasks.
2. Develop an evaluation system which focuses on performance and output as well as input, and in which jobs are described in terms of performance standards.
3. Devise a means of using consumer responses --questions, suggestions, and interpretations-- to facilitate the continued improvement of the educational program.
4. Utilize objective evaluation of organizational effectiveness to measure end results and plan future events.
5. Utilize evaluation information to improve the system.

* Adapted from Margaret K. Morgan and Albert A. Canfield. Administrative competencies in education and the allied health professions. Gainesville: The Center for Allied Health Instuctional Personnel, December 1972.

and written in the form of the statements in the Florida Catalog. The resulting statements are presented verbatim in Figure 1, and in Tables 3 and 4.

3. Congruence of the two sets of statements

The overlap between the two sets of educational administrator competency statements is illustrated in Figure 1. The Gainesville statements, now given the arbitrary numbers assigned in Table 1, are plotted along the top of the figure; the San Francisco statements, here given the category numbers as they appeared in the questionnaire, are listed in the vertical dimension on the left-hand side of the figure. Space does not permit the listing of both sets of statements in the same figure, thus making it necessary to refer to Table 1 for the specific wording of the Gainesville statements. The grouping and ordering within the groups of Gainesville statements have been preserved and acronyms for the Gainesville statement groups are given at the top of Figure 1. Gross a priori divisions between groups of competency statements developed at both locations have been indicated by dark lines which demark the larger cell divisions.

The two sets of statements have been compared both in explicit wording and in sense wording. Where there is manifest agreement this agreement has been indicated by a mark in the appropriate cell of the grid which lies at the intersection of the two statements. Since some statements are either gross or vague, certain unintended meanings may have inadvertently been read into them; other meanings may have been missed. Because of this, it is possible that some overlap between statements has been exaggerated in Figure 1; the corollary of this, that some overlap may have been missed due to a misreading of the sense of a statement, is also true. Clearly, identification of statements that overlap in some sense is a function of the education and experience of the reader and will differ from reader to reader. Future research on competency statements for educational administrators in the allied health fields should be designed in part to reconcile these statements by (1) tightening up the wording in order to reduce ambiguity and

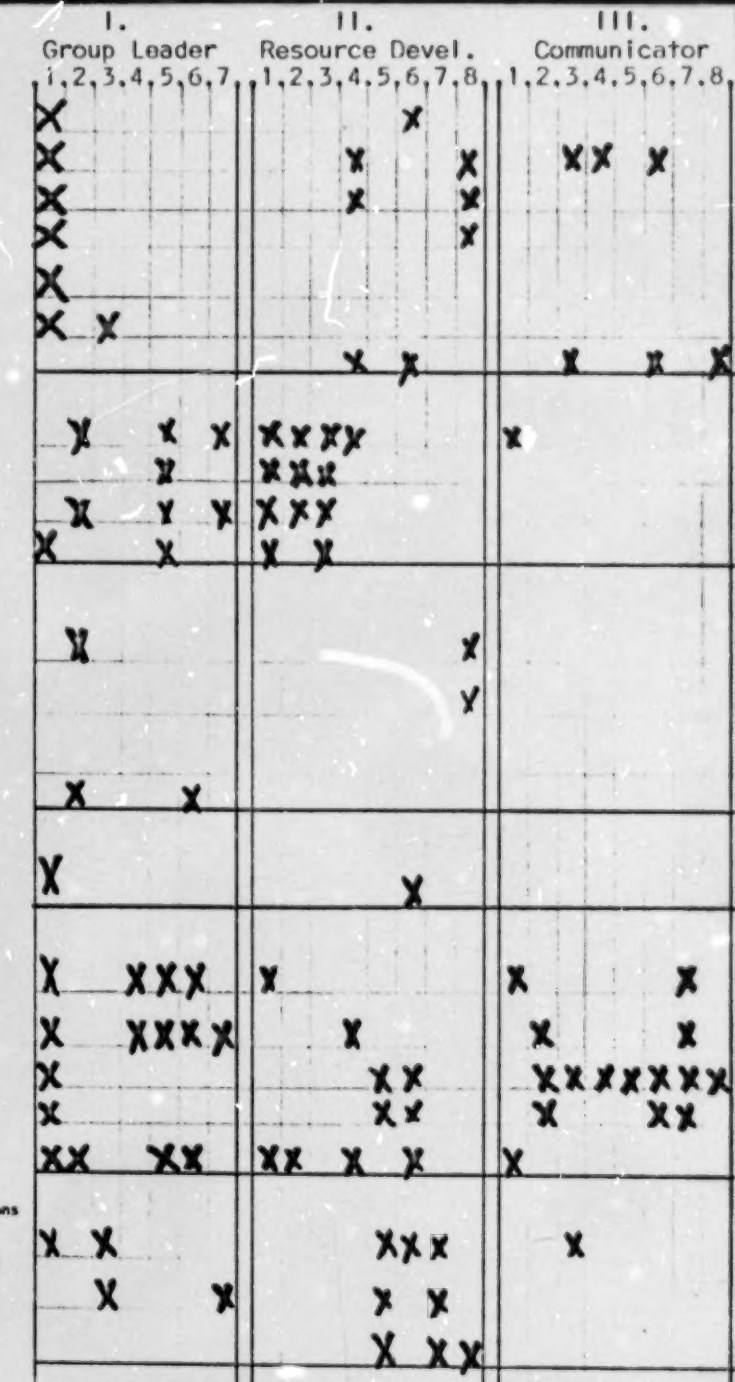
I. Group Leader
1.2.3.4.5.6.7
II. Resource Devel.
1.2.3.4.5.6.7.8
III. Communicator
1.2.3.4.5.6.7.8
1.0 Systematic planning and decision-making
1.1 Identifying central issues in administrative problems
1.2 Defining and clarifying organizational goals and objectives
1.3 Developing plans to achieve long and short range objectives
1.4 Utilizing techniques for systematic planning and implementation, e.g. PERT, PPBS, Task Analysis, etc.
1.5 Establishing priority rankings among administrative problems
1.6 Collecting, analyzing, and interpreting data related to administrative problems
2.0 Managing personnel
2.1 Utilizing recruiting and selection procedures
2.2 Describing job responsibilities for self and subordinates
2.3 Planning and executing personnel evaluations
3.0 Utilizing knowledge of financial aspects of administration
3.1 Utilizing knowledge of public and private funding bases to secure financial support
3.2 Utilizing principles of accounting in the management of a departmental or program budget
3.3 Interpreting salary schedules and payroll procedures
4.0 Considering the implications of alternative models of allied health education in terms of their ultimate effects on health delivery.
5.0 Maintaining a receptivity and accessibility to others through a knowledge of human behavior
5.1 Utilizing knowledge and techniques of group processes to facilitate interaction with faculty, students, peers, and supervisors
5.2 Organizing presentations which effectively convey ideas
5.3 Conducting effective conferences and meetings
5.4 Motivating faculty, students, and peers to increase cooperation and job satisfaction
6.0 Considering the relationships between school, community, and government in decisions which affect program administration
6.1 Recognizing the general legal principles that affect program administration (legal responsibility, liability, etc.)
6.2 Attempting to influence legislation which influences allied health education and health care delivery
1.2.3.4.5.6.7
1.2.3.4.5.6.7.8
1.2.3.4.5.6.7.8

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Figure 1. Grid indicating areas of overlap for competency statements developed at Gainesville (top margin) and San Francisco (left margin).

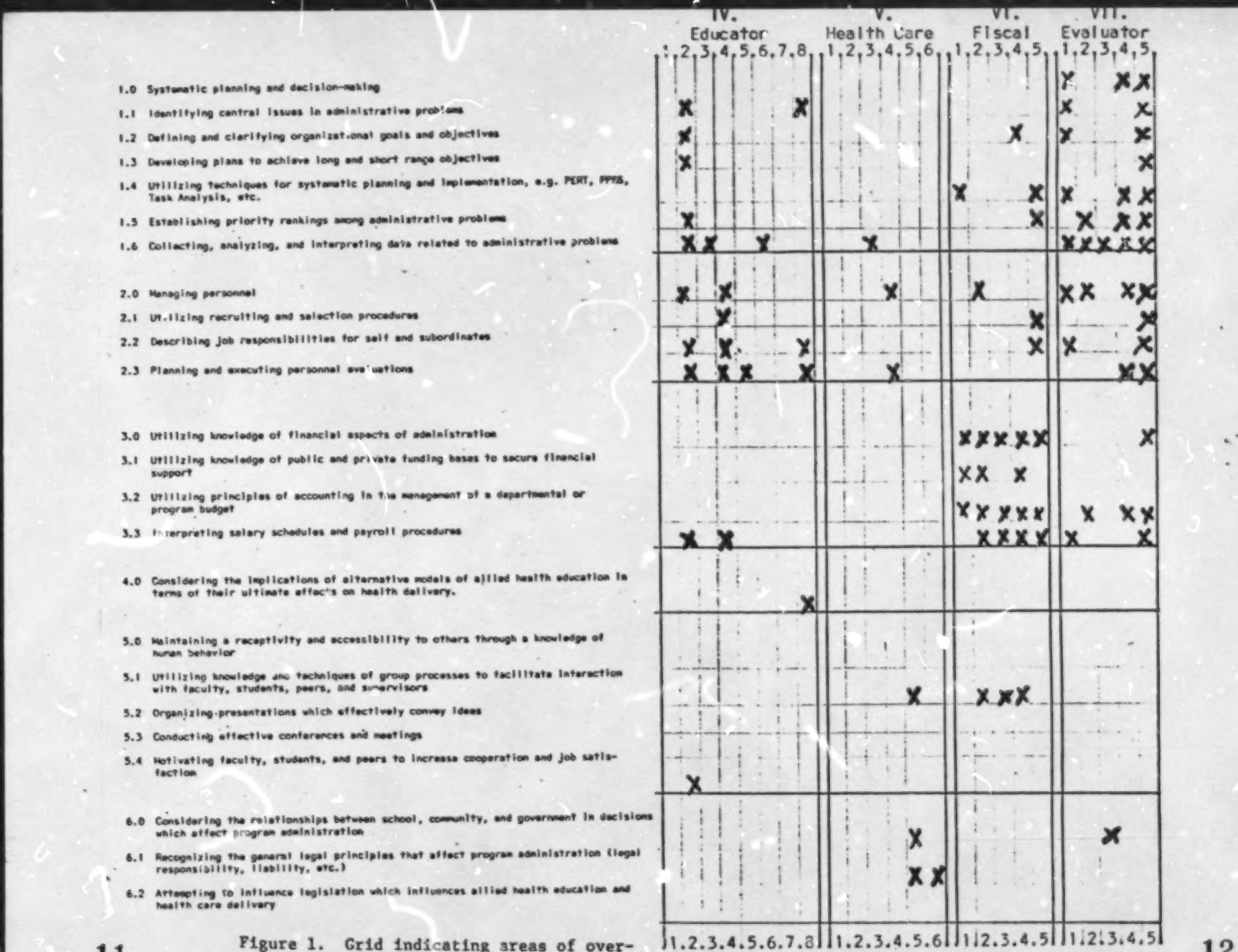

IV. Educator
1.2.3.4.5.6.7.8
V. Health Care
1.2.3.4.5.6
VI. Fiscal
1.2.3.4.5
VII. Evaluator
1.2.3.4.5
1.0 Systematic planning and decision-making
1.1 Identifying central issues in administrative problems
1.2 Defining and clarifying organizational goals and objectives
1.3 Developing plans to achieve long and short range objectives
1.4 Utilizing techniques for systematic planning and implementation, e.g. PERT, PPBS, Task Analysis, etc.
1.5 Establishing priority rankings among administrative problems
1.6 Collecting, analyzing, and interpreting data related to administrative problems
2.0 Managing personnel
2.1 Utilizing recruiting and selection procedures
2.2 Describing job responsibilities for self and subordinates
2.3 Planning and executing personnel evaluations
3.0 Utilizing knowledge of financial aspects of administration
3.1 Utilizing knowledge of public and private funding bases to secure financial support
3.2 Utilizing principles of accounting in the management of a departmental or program budget
3.3 Interpreting salary schedules and payroll procedures
4.0 Considering the implications of alternative models of allied health education in terms of their ultimate effects on health delivery.
5.0 Maintaining a receptivity and accessibility to others through a knowledge of human behavior
5.1 Utilizing knowledge and techniques of group processes to facilitate interaction with faculty, students, peers, and supervisors
5.2 Organizing presentations which effectively convey ideas
5.3 Conducting effective conferences and meetings
5.4 Motivating faculty, students, and peers to increase cooperation and job satisfaction
6.0 Considering the relationships between school, community, and government in decisions which affect program administration
6.1 Recognizing the general legal principles that affect program administration (legal responsibility, liability, etc.)
6.2 Attempting to influence legislation which influences allied health education and health care delivery
1.2.3.4.5.6.7.8
1.2.3.4.5.6
1.2.3.4.5
1.2.3.4.5

Figure 1. Grid indicating areas of overlap for competency statements developed at Gainesville (top margin) and San Francisco (left margin).

(2) by examining the sense of each statement in order to divide statements which contain more than one salient idea and combine statements which describe different aspects of the same thing.

3A. Statement Overlap

Inspection of Figure 1 indicates areas of statement overlap or congruence, overlap being indicated where there are X-marks. The extent of overlap (or conversely, "underlap") is indicated by the number of X-marks in the division of cells which mark the intersection between the larger groupings of competency statements. For example, there is minimal overlap between the Gainesville statements under Health Care (Gainesville Group statements V.1 through V.6) and the San Francisco statements under Systematic planning and decision-making (San Francisco Group statements 1.1 through 1.6). Given the present structure and sense of these competency statements, it is entirely possible that there should be no overlap between certain groupings of statements. For example, the Gainesville statements in Group VI labelled Fiscal do not overlap with the San Francisco statements 6.0, 6.1, and 6.2 which involve the legal and societal aspects of the administrator's job. Close inspection of the Gainesville statements indicates that many of the "fiscal" concerns of the educational administrator are included in the Gainesville groups of statements grouped under the category labeled Resource Development (Gainesville Group II).

The relationships between statements presented in Figure 1 clarify the nature of the statements and the sense of the topical groupings. Such a scheme will be a useful device for reconciling the two groups of statements, for pointing to areas of possible additional competency statement development, and for shaping the direction of future competency statements for educational administrators.

3B. Grouping of the (SF) Competency Statements by Factor Analysis

Although we will not describe the questionnaire or the nature of the sample of respondents until the next section, it is appropriate to discuss here the grouping of the items through the technique of

factor analysis. The reader is referred to the next section for a discussion of the mechanics of the survey.

The San Francisco statements were included in a questionnaire which was sent to a large number of community college administrators and senior college directors of allied health programs in twelve allied health fields or specialties. The administrator or director was instructed to rate the usefulness of each competency statement (or administrative behavior) as follows: "Rate each administrator (sic) behavior according to its utility to you in your role as an administrator in the allied health field." A six-unit, Likert scale was provided for marking, with the low end labeled "unessential" and the high end labeled "essential." Usable data were received from 253 community college program administrators and 201 senior college (four year college or university) program directors.* These data were entered into two factor analyses, one for responses from community college officials and one for responses from senior college officials. The factor analyses were executed with the SPSS routine with the principal component solution rotated according to the varimax procedure. Factors were extracted for all solutions with an eigenvalue of 1.0 or greater (Nie, et al, 1975).

Results for the two factor analyses are given in Table 2 and are presented in a way that enables identification of similarities and differences between administrator and director responses. The responses of community college officials yield four factors and the responses of senior college officials yield five factors. The statements given in Table 2 "load" at .40 or better on a given factor. With the acceptance threshold set at .40, all statements were included in at least one factor group.

The factor structure for community college administrators presents the clearest picture of the factorial groupings of the twenty-four competency/behavior statements. Factor I includes all statements in Groups 3.1-3.3, 4.0, and 6.0-6.2. While Factor I is a combination of statements from three groups of statements formed on an a priori

*Data were also obtained from 311 community college presidents. These data will be presented elsewhere.

Factor	Community College Program Administrators (N = 253) I	II	III	IV	Senior College Program Directors (N = 201) I	II	III	IV	V
	3.1 (.75)				3.3 (.73)				
	3.3 (.71)				3.2 (.72)				
	3.2 (.69)				3.0 (.70)				
	3.0 (.68)				3.1 (.66)				
I.									
	6.2 (.72)				6.2 (.61)				
	6.1 (.66)				6.0 (.60)				
	6.0 (.52)				6.1 (.55)				
	4.0 (.62)								4.0 (.60)
		1.3 (.76)				1.3 (.77)			
		1.2 (.75)				1.2 (.74)			
		1.5 (.71)				1.1 (.71)			
II.		1.6 (.68)				1.0 (.69)			
		1.1 (.65)				1.5 (.60)			
		1.0 (.55)				1.6 (.59)			
		1.4 (.44)							1.4 (.74)
			5.1 (.81)				5.2 (.72)		
			5.2 (.77)				5.4 (.71)		
III.			5.0 (.73)				5.0 (.70)		
			5.3 (.69)				5.3 (.54)		
			5.4 (.57)				5.1 (.43)		5.1 (.61)
				2.0 (.76)				2.1 (.70)	
IV.				2.1 (.72)				2.2 (.62)	
				2.3 (.71)				2.3 (.53)	
				2.2 (.63)				2.0 (.47)	
Eigenvalues	10.27	1.90	1.68	1.10	9.39	1.90	1.54	1.34	1.12
Cumulative Percent of Variace	42.8	50.7	57.7	62.3	39.1	47.0	53.5	59.0	63.7

Table 2 . Factor analysis of perceived usefulness of 24 administrative behavior statements. Items within each factor (varimax rotation) for community and senior college administrators of allied health programs. Factor "loadings" are in parentheses.

basis, it represents a broad, though tenuous, statement of generalized administrative endeavor in the areas of finance, legal relationships, and models of health care education. Factor II includes all statements in a priori Group 1.0-1.6; Factor III includes all statements in a priori Group 5.0-5.4; and Factor IV includes the Statements in Group 2.0-2.2. The factor structure for the senior college program directors is similar, except for the emergence of a fifth factor, one which includes statement 4.0, 1.4, and 5.1. In the case of the senior college directors, statement 4.0 (a Group unto itself) has been separated from Factor I. It is unclear, at this time, why this should be. It may be that the assumptions underlying the administrative structure of the community and senior colleges are such that administrators perceive the usefulness of the statement and its underlying competency/behavior idea or construct in different ways. It also may be that the separation of statement 4.0 from Factor I and its combination with statements 1.4 and 5.1 is just a peculiarity of these data, the latter being borne out by the rather small eigenvalue associated with Factor V, and by the fact that statement 5.1 also "loads" on Factor III, where it "belongs." Both factor analyses generate factors which account for over sixty percent of the system variance.

3C. Discussion

In general, the factor analyses of these data reinforce the a priori groupings of the San Francisco competency statements when the factor analytic grouping is based upon the ratings of perceived usefulness of the behaviors by program administrators and directors at two levels of higher education. Additional reinforcement is given to generalizibility of the factor structure of the statements by the diverse mix of allied health specialties at the various levels of community college, senior college, and university education.

At this point little can be said about the implications of the factor analysis of the San Francisco competency statements for the a priori grouping of the Gainesville statements other than to speculate that future research may require that the Gainesville statements be consolidated into less than seven groups. However, the parsimony and confidence gained through the mathematical grouping of statements

based on some algorithm which partitions an interstatement correlation matrix of perceived usefulness may not be entirely counterbalanced by the loss of tactical advantage in having a larger number of perhaps more intelligible groups, each containing fewer statements.

4. A National Survey of Educational Administrators in the Allied Health Fields.

4A. Method and Sample.

In order to find out where educational administrators in the allied health fields learn their competencies, administrators in a variety of allied health fields at all levels of higher education in the United States were surveyed by questionnaire. The instrument was designed to obtain data on the twenty-four administrator competency statements developed at San Francisco. Specifically, the questionnaire asked for the respondent's field of major interest, how long the respondent has taught in that field, and how the respondent learned the behaviors associated with each of the competencies. In addition, respondents were asked to rate the usefulness of each of the competencies in terms of "its utility to you in your role as an administrator, . . ." as indicated in Section 3B above.

The survey instrument was sent to coordinators of seven types of allied health programs* in community colleges and eight types of allied health programs in senior colleges and universities in the late spring of 1973. Addresses of program coordinators were obtained from a nationwide list of allied health coordinators provided by the Director, Division of Manpower Intelligence, National Institutes of Health. Returned questionnaires indicated considerable divergence from the original sampling plan. For example, at the time of the survey a number of programs either were being formed or being discontinued or were non-existent, the addressee was no longer associated with the program,

*Community college programs included Dental Assisting, Dental Hygiene, Dental Laboratory Technician, Medical Laboratory Technician, Inhalation Therapy, Medical Records Technician, and Radiologic Technician. Senior College programs included Medical Records Librarian, Inhalation Therapy, Dental Assisting, Dental Hygiene, Medical Technologist, Radiologic Technologist, Occupational Therapist, and Physical Therapist.

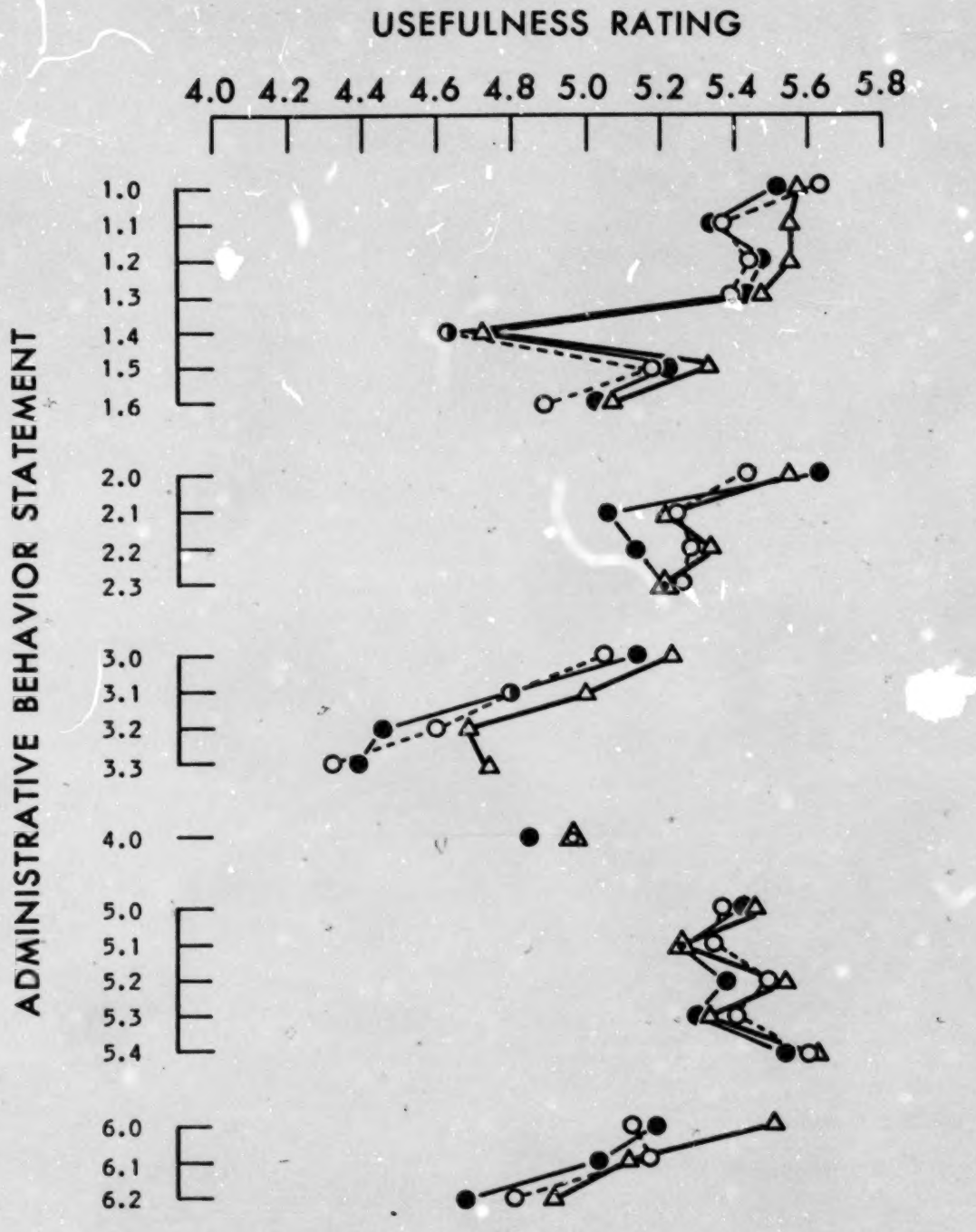
or the program administrator or director was not formally trained in an allied health field in a way that one would expect from his or her title as program chief (e.g. Dental Assisting programs headed by dentists and other types of programs headed by nurses). Fifty-nine percent of the community college program administrators returned questionnaires, but eleven percent of the total sent were not usable for one reason or another; 53 percent of the senior college program directors returned questionnaires with seven percent unusable. Thus, data presented here are analyzed for 253/527 (48%) of the community college officials sampled and 201/451 (46%) of the senior college officials sampled. Geographically, usable responses for community colleges came from 39 states and the District of Columbia; for senior colleges usable responses came from 41 states, the District of Columbia, and one territory. Response patterns tended to follow population densities in the United States.

In addition to the above administrators, identical forms of the survey instrument were sent to presidents of 724 community colleges which had allied health training programs, with the request that the recipient ". . . examine the content of these questionnaires and direct them to the appropriate Division Chairman, Dean of Instruction, or that person administratively responsible for your allied health instructional staff." Usable responses were received from 50 percent of the institutions surveyed. These responses will be analyzed in another paper and will not be used here except for perspective in Section 4B, especially in association with Figure 2. It is not known how many of the returned forms were filled out by the same person or two different persons at the colleges that were polled, since the official title of the respondent was not asked.

4B. Rating of Competency Statement Usefulness by Three Groups of Administrators.

Means were computed for usefulness ratings for each of the 24 competency statements for community college program administrators, senior college program directors, and a group which we shall refer to as community college presidents for sake of convenience. These means are given in Figure 2, where they are plotted to show the profile of

Figure 2. Mean usefulness ratings of competency statements by educational administrators in community colleges, four year colleges and universities.



each group relative to other groups for each of the 24 statements. Although the exact constitution of the group of community college presidents is unknown, the group in some degree represents a pool of community college officials at the highest levels of administrative authority. This group will be included only in this analysis in order to provide perspective in interpreting the responses of the other two groups and as a kind of check on the consistency of response for the other group of community college administrators. Inclusion of this group will be of interest because it provides data on the usefulness of a broad range of competency statements as perceived by a large heterogeneous group of top community college administrators.

Inspection of Figure 2 indicates that the items were generally rated toward the high, or "useful," end of the scale. Indeed, there was a marked tendency for the individual responses to be skewed toward the high end of the scale. This tendency has been observed in other studies of competency statements (Cundiff, 1972; Thomas and Kay, 1974). Since the statements were designed for their saliency as descriptors of administrative action it seems appropriate that the ratings be skewed in favor of usefulness. What is important is that the mean responses cover a wide range of ratings (i.e. there is variation from statement to statement). What is more important is that the pattern of mean response over the 24 statements is similar for each group of respondents. For the precise mean responses for each statement, see tables 5 and 6. In addition, it will be seen that the senior college program directors tend to indicate a higher degree of usefulness on most of the statements. This observation is reinforced statistically where, if each of the mean ratings for the three groups are ranked from low to high for each statement, the sum of the mean ranks for all of the statements is statistically higher for the senior college group (Kruskal-Wallis $H=16.60$, $df=2$, $p<.001$). Furthermore, post hoc contrasts indicate that the mean ranks of the senior college group for the 24 statements taken together is statistically higher than the mean ranks for the other two groups combined for the 24 items considered as a whole (mean ranks: Sr. Col. Dirs. 2.54; Com. Col. Admins. 1.90; Com. Coll. Pres. 1.56).

In summary we may conclude that although the three groups of respondents rate the competency statements over a wide range of "usefulness," the pattern of ratings is generally the same for each of the items taken individually and for all of the items considered together. In addition, it can be said that senior college officials in allied health fields rate the 24 statements as more useful to them in their "role as an administrator in the allied health field" than the community college administrators or presidents rate the 24 statements. The findings associated with Figure 2 indicate an amazing degree of consistency of responses for a large number of administrators in three relatively homogeneous groups.

4C. Where Allied Health Program Administrators Obtained Their Training for Specific Behaviors.

In order to determine where the sample of administrators received their training in each of the competencies, provision was made on the questionnaire for responses to the following options:

Indicate the nature of your training related to each of the following administrator behaviors. Do so by CIRCLING the appropriate letter to the left of each statement.

A	B	C	D
I've received no training for this particular behavior	As a student I had training for this behavior	I've acquired this behavior on-the-job	As a student I received training for this behavior which has been augmented by on-the-job experience

Response data for each of the statements for each of the training options "A", "B", "C", and "D", reduced to percentages, are given for 253 community college program administrators in Table 3 and for 201 senior college program directors in Table 4. While there may be an element of ambiguity in the wording and interpretation of the response options, inspection of Tables 3 and 4 indicates that the respondents did not, in the aggregate, have trouble deciding. The percentages in each of the four columns in each table, with some variation, tend to be uniform. This is to say that reading down the columns for each of the response choices in the two tables, the percentages tend to follow a pattern with the largest proportions of respondents claiming "on-the-

Table 3. Percentage of Community College Allied Health Administrators Receiving Training* in Each of Four Modes for Administrative Behaviors. (N = 253)

ADMINISTRATOR BEHAVIOR	Percent Responding A	B	C	D
1.0 Systematic planning and decision-making	7	7	53	34
1.1 Identifying central issues in administrative problems	12	5	62	22
1.2 Defining and clarifying organizational goals and objectives	6	6	51	37
1.3 Developing plans to achieve long and short range objectives	7	6	56	30
1.4 Utilizing techniques for systematic planning and implementation, e.g. PERT, PPBS, Task Analysis, etc.	25	7	46	23
1.5 Establishing priority rankings among administrative problems	12	4	65	19
1.6 Collecting, analyzing, and interpreting data related to administrative problems	16	6	55	23
2.0 Managing personnel	7	6	56	31
2.1 Utilizing recruiting and selection procedures	10	4	63	23
2.2 Describing job responsibilities for self and subordinates	7	6	62	25
2.3 Planning and executing personnel evaluations	9	6	62	24
3.0 Utilizing knowledge of financial aspects of administration	15	4	61	19
3.1 Utilizing knowledge of public and private funding bases to secure financial support	25	2	61	12
3.2 Utilizing principles of accounting in the management of a departmental or program budget	25	6	54	15
3.3 Interpreting salary schedules and payroll procedures	26	3	63	8
4.0 Considering the implications of alternative models of allied health education in terms of their ultimate affects on health delivery.	25	3	61	12
5.0 Maintaining a receptivity and accessibility to others through a knowledge of human behavior	9	6	49	36
5.1 Utilizing knowledge and techniques of group processes to facilitate interaction with faculty, students, peers, and supervisors	10	6	52	32
5.2 Organizing presentations which effectively convey ideas	5	4	49	42
5.3 Conducting effective conferences and meetings	10	5	57	29
5.4 Motivating faculty, students, and peers to increase cooperation and job satisfaction	10	5	57	29
6.0 Considering the relationships between school, community, and government in decisions which affect program administration	19	4	62	15
6.1 Recognizing the general legal principles that affect program administration (legal responsibility, liability, etc.)	17	4	59	20
6.2 Attempting to influence legislation which influences allied health education and health care delivery	29	4	56	12

* "A" No training. "C" On-the-job.
"B" As a student. "D" As a student, augmented by on-the-job experience.

Table 4. Percentage of Four-year College and University Allied Health Administrators Receiving Training* in Each of Four Modes for 24 Administrative Behaviors. (N = 201)

ADMINISTRATOR BEHAVIOR	Percent Responding A	B	C	D
1.0 Systematic planning and decision-making	9	4	56	32
1.1 Identifying central issues in administrative problems	10	1	62	27
1.2 Defining and clarifying organizational goals and objectives	10	2	57	32
1.3 Developing plans to achieve long and short range objectives	9	3	55	34
1.4 Utilizing techniques for systematic planning and implementation, e.g. PERT, PPBS, Task Analysis, etc.	24	3	52	21
1.5 Establishing priority rankings among administrative problems	11	0	71	17
1.6 Collecting, analyzing, and interpreting data related to administrative problems	17	2	57	25
2.0 Managing personnel	9	1	58	32
2.1 Utilizing recruiting and selection procedures	11	1	69	20
2.2 Describing job responsibilities for self and subordinates	6	2	66	27
2.3 Planning and executing personnel evaluations	11	1	65	23
3.0 Utilizing knowledge of financial aspects of administration	14	1	64	21
3.1 Utilizing knowledge of public and private funding bases to secure financial support	23	1	66	11
3.2 Utilizing principles of accounting in the management of a departmental or program budget	26	4	51	19
3.3 Interpreting salary schedules and payroll procedures	17	2	67	14
4.0 Considering the implications of alternative models of allied health education in terms of their ultimate effects on health delivery.	25	1	65	10
5.0 Maintaining a receptivity and accessibility to others through a knowledge of human behavior	10	4	44	43
5.1 Utilizing knowledge and techniques of group processes to facilitate interaction with faculty, students, peers, and supervisors	14	4	47	35
5.2 Organizing presentations which effectively convey ideas	9	5	42	45
5.3 Conducting effective conferences and meetings	10	3	63	25
5.4 Motivating faculty, students, and peers to increase cooperation and job satisfaction	8	2	66	25
6.0 Considering the relationships between school, community, and government in decisions which affect program administration	19	1	61	19
6.1 Recognizing the general legal principles that affect program administration (legal responsibility, liability, etc.)	18	1	56	25
6.2 Attempting to influence legislation which influences allied health education and health care delivery	31	1	56	13

* "A" No training. "C" On-the-job.
"B" As a student. "D" As a student, augmented by on-the-job experience.

job" and "as a student, augmented by on-the-job experience" as the general modes for learning the 24 behaviors. On the other hand, a large percentage of both kinds of college officials admit to having "no training" in the competency. Surprisingly, the fewest number of officials report obtaining any formal education "as a student" in these competency/behaviors, with the senior college program directors generally reporting smaller percentages than the community college administrators.*

Although the patterns of formal and on-the-job training for these specific competencies are mixed, in general we can say that community college administrators admit to receiving on the average somewhat less formal training than the senior college directors. The explanation for this can be found in the administrative credentialing differences between the two types of institutions. Because of its origins as an upward extension of the high school, the community college tends to hire and promote administrators who have formal training in administrative matters. The four-year college or university tends to hire and promote administrators less on the basis of formal administrative preparation than on the basis of achievement in a specific discipline. While the differences discussed here are really very small, the consistent pattern and easy explanation add to the validity of these data. Other differences between the two populations can be found through screening of individual statement differences, but these will be left to the inquisitive reader.

4D. Discussion

Data presented in this section indicate that both administrators and directors receive the larger part of their training in 24 specific behaviors of this study on-the-job. The conclusion is that large numbers of administrators in responsible positions receive little or no formal training in the arts and techniques of administrative science which underlie the expressions of behavior responded to in this study. Consistency of response by administrators from both types of institutions contribute to the validity of these data and serves to reinforce the implications of these findings for educational administrators

*It should be mentioned that this is one of the reasons for Kellogg Foundation sponsorship of the several programs for training allied health administrators and teachers.

in the allied health fields. Clearly, there is room for educational programs which formally train educational administrators in the competencies deemed essential by the current generation of top administrators. Indeed, by extension, there is a need to improve the competencies of the current generation of administrators through programs of continuing education. Cataloging and mapping the domain of competencies and behaviors necessary for efficient administrative performance in the modern world is a necessary step in the design of rational programs to provide the requisite competencies.

5. Effect of Prior Training on Perceived Usefulness of the Competency/Behavior Statements.

Analysis of variance was computed using "prior training" responses as four levels of the independent variable and the "usefulness" rating as the dependent variable for each of the 24 competency/behavior statements. Although the responses were skewed toward the high end of the usefulness scale, the large sample size, the Likert-type scale, and the natural robustness of the F test all supported the appropriateness of analysis of variance. Because of the extreme skewness of some of the statement response patterns, the Kruskal-Wallis non-parametric analysis of variance was also computed for these data, treating the Likert responses as ranks. Results were virtually the same as for the classical analysis of variance.

Analyses were made for both the community college administrators and the senior college directors and will be reported in the two sections which follow. Data for these analyses are presented in Tables 5 and 6.

5A. Prior Training and Perceived Usefulness of Competency Statements by Community College Program Administrators.

Means for each of the "prior training" groups, F ratios, grand means, and ranks for each of the grand means for usefulness ratings are given in Table 5 for 253 community college administrators. Inspection of Table 5 indicates that perceived usefulness differentiates the prior training groups on 22 of the 24 statements at the .05 level.

Table 5. Mean Usefulness Ratings for Different Prior Training Categories for Community College Program Administrators, F tests for One-Way Analysis of Variance, and Statement Ranks. (N = 253)

Statement	"A" No prior Training	"B" Training as student	"C" On job Training	"D" As student on job	F-ratio	Grand Mean Rating	Rank
1.0	5.33	5.65	5.59	5.76	2.70*	5.64	1
1.1	4.72	5.67	5.41	5.56	6.41***	5.38	8
1.2	4.67	5.31	5.47	5.58	5.95***	5.45	4
1.3	4.72	5.38	5.41	5.55	4.71**	5.40	7
1.4	4.08	4.94	4.67	5.07	6.86***	4.63	22
1.5	4.35	5.27	5.28	5.38	8.05***	5.19	14
1.6	3.05	4.73	4.99	5.30	11.81***	4.89	19
2.0	4.33	5.13	5.51	5.61	10.64***	5.43	5
2.1	4.50	5.00	5.26	5.58	9.34***	5.24	13
2.2	5.00	5.13	5.22	5.53	2.46	5.28	11
2.3	4.95	5.13	5.23	5.50	2.45	5.26	12
3.0	4.21	5.00	5.19	5.29	12.23***	5.05	17
3.1	4.13	5.00	5.00	5.16	10.26***	4.80	20.5
3.2	3.73	4.57	4.87	5.11	17.35***	4.60	23
3.3	3.50	4.75	4.57	4.81	11.95***	4.32	24
4.0	4.45	4.86	5.09	5.42	7.37***	4.97	18
5.0	4.74	5.19	5.24	5.75	11.58***	5.37	9
5.1	4.62	4.60	5.32	5.74	15.11***	5.34	10
5.2	5.67	5.09	5.31	4.70	6.28***	5.48	3
5.3	5.42	5.25	5.30	5.63	2.68*	5.40	6
5.4	5.20	5.00	5.62	5.78	7.58***	5.59	2
6.0	4.51	5.30	5.19	5.49	8.68***	5.11	16
6.1	4.74	5.00	5.19	5.48	4.73***	5.16	15
6.2	4.40	5.00	4.94	5.10	3.78*	4.80	20.5

* $p < .05$ ** $p < .01$ *** $p < .001$

The two statements which do not differentiate the training groups both have to do with personnel matters. No doubt one or more of the significant statements in this list are Type I errors. In addition, several of the significant statements may be technically significant only because of the large sample size. In spite of these statistical uncertainties, these data provide strong evidence that type of prior training for each of the competencies influences the way administrators view the utility of these competencies.

In order to explore the implications of this finding in greater detail, it is possible to perform another statistical test on these data which will answer the question: Do the respondents in any of the categories A through D perceive the usefulness of the statements, taken as a whole, as relatively higher or lower? In other words, is there a consistent pattern, across prior training mode, to the level of perceived usefulness? To test this hypothesis usefulness means were ranked from lowest (1) to highest (4) for the four groups across each of the 24 statements. Then after summing the ranks for each of the 24 statements within each of the four groupings, the well-known Kruskal-Wallis test can be applied across the mean ranks for each of the groups to test for consistency of prior training effects for the 24 statements collectively. For the data in Table 5, the mean ranks for the data in levels A through D are 23.56, 44.80, 55.29, and 68.21. The resulting Kruskal-Wallis statistic H = 33.74, which is distributed as chi-square with 3 degrees of freedom, has a probability of occurence in this case far smaller than one in a thousand. Clearly, there is a monotonic increase in the mean ranks for the four groups and the mean ranks are distributed in a way other than would be expected by chance.

Scheffe-type post hoc contrasts were computed for the mean ranks for the four groups of the independent variable following rejection of the null hypothesis by the Kruskal-Wallis test. These are presented in Table 7A for the data for community college program administrators. Significant differences occur between groups A-B, A-C, A-D, and B-D. Clearly, the groups who report being trained as a student, on-the-job and on-the-job/as a student rate the usefulness of the 24 statements, considered en masse, higher than the group which reported itself as having no formal training. Likewise, the group which reports being

trained as a student rates the usefulness of the statements higher than the group which received training on-the-job/as a student. The meaning of the post hoc contrasts deserves emphasis: there is an increase in the rating of usefulness of the competency statements with each increasing level of prior or formal training. Expressed differently, with each higher level of formal training there is a greater appreciation of the utility of the administrative competencies in general.

5B. Prior Training and Perceived Usefulness of Competency Statements by Senior College Program Directors.

Data similar to the data in Table 5, but for senior college program directors, is presented in Table 6. Analyses identical with those done for the data in Table 5 were done for these data with results that closely parallel the findings for community college administrators. Before discussing these findings, several peculiarities about these data and analyses should be mentioned. Of the data it should be mentioned that there were no responses for group B for statement 1.5; similarly, there was only one response for group B for seven other statements. Kruskal-Wallis analysis for the 23 statements was done using these seven single point estimates. It was also done for the sixteen statements with complete data.

Results for the data in Table 6 were similar to results for Table 5 data. For this sample, the statements which were not significantly differentiated by prior training and the analysis of variance included statements 5.2, 5.3, and 5.4, a different set of statements than those statements which did not differentiate community college administrators. Finally, the ranking of the grand means for the 24 statements was quite similar to the ranking of the grand means for the community college administrators. Perception of usefulness of these competencies is essentially the same for both populations.

The Kruskal-Wallis test when applied to the means for all the groups yielded an H = 33.74, which is also well beyond the .001 level

Table 6. Mean Usefulness Ratings for Different Prior Training Categories for Senior College Program Directors, F tests for One-Way Analysis of Variance, and Statement Ranks. (N = 201)

Statement	"A" No prior Training	"B" Training as student	"C" On job Training	"D" As student on job	F-ratio	Grand Mean Rating	Rank
1.0	5.17	5.86	5.63	5.63	2.74*	5.59	2
1.1	4.86	6.00≠	5.62	5.67	7.67***	5.56	3.5
1.2	5.26	4.67	5.54	5.71	4.11**	5.56	3.5
1.3	4.94	5.20	5.52	5.56	3.10*	5.48	7
1.4	4.08	4.40	4.90	5.05	6.85***	4.73	23
1.5	4.91	--	5.34	5.54	3.45*	5.33	10
1.6	4.47	5.67	5.22	5.14	5.31**	5.08	17
2.0	4.49	6.00	5.51	5.80	6.46***	5.55	5
2.1	4.41	6.00≠	5.29	5.35	7.24***	5.21	14.5
2.2	4.64	5.00	5.41	5.33	2.96*	5.34	9
2.3	4.52	4.50	5.32	5.28	5.52***	5.21	14.5
3.0	4.64	4.00	5.31	5.37	6.66***	5.21	13
3.1	4.61	2.00≠	5.08	5.50	6.61***	5.00	18
3.2	3.88	5.00	4.87	5.21	10.38***	4.69	24
3.3	4.21	4.50	4.77	5.17	3.28*	4.73	22
4.0	4.28	4.00≠	5.15	5.53	8.92***	4.97	20
5.0	4.70	5.57	5.45	5.58	6.97***	5.44	8
5.1	4.52	5.14	5.40	5.40	6.76***	5.26	12
5.2	5.29	5.40	5.50	5.64	1.93	5.54	6
5.3	5.00	5.40	5.30	5.48	1.55	5.32	11
5.4	5.40	5.00	5.59	5.71	1.51	5.60	1
6.0	4.23	4.00≠	5.07	5.54	12.14***	5.00	19
6.1	4.51	6.00≠	5.12	5.54	7.57***	5.11	16
6.2	4.29	4.00≠	5.13	5.42	10.05***	4.90	21

* $p < .05$ ** $p < .01$ *** $p < .001$

≠ Based on only one response.

Table 7. Post hoc comparisons for Usefulness Rating by Prior Training Group.

A. Post hoc Contrasts for Community College Program Administrators for the Data Given in Table 5.

Prior Training Groups and Mean Ranks

	"A" No prior Training	"B" Training as a Student	"C" On-the-job Training	"D" As a Student and on-the-job
A (23.56)	---			
B (44.80)	SIG	---		
C (55.29)	SIG	NS	---	
D (68.21)	SIG	SIG	NS	---

B. Post hoc Contrasts for Senior College Program Directors for the Data Given in Table 6.

Prior Training Groups and Mean Ranks

	"A" No prior Training	"B" Training as a Student	"C" On-the-job Training	"D" As a Student and on-the-job
A (23.56)	---			
B (44.80)	SIG	---		
C (55.29)	SIG	NS	---	
D (68.21)	SIG	SIG	NS	---

of significance. Mean ranks for groups A, B, C, and D are 23.56, 44.80, 55.29, and 68.21, indicating a progression similar to the progression found for community college administrators. Post hoc contrasts, given in Table 7B, were identical to the post hoc tests for community college administrators.

5C. Discussion

A statistical analysis of the relationships between perceived usefulness of 24 competency statements and degree of prior training reported by allied health program officials has been presented in these sections. Although adequate data on the microscopic aspects of these relationships was given so that the interested reader can consider the statements in detail, the emphasis has been on the macroscopic. Unfortunately the scope of this presentation does not permit the detailed analysis of these data that the individual competency statements require.

In general, it can be said that there is considerable variation from statement to statement in reported usefulness as a function of prior training. It also can be reported that there is great uniformity in the way the two, or possibly three, groups of officials perceive competency usefulness and in the effects of prior training on the perception of statement usefulness. The most important finding is perhaps the latter, which relates level of formal training in the whole range of competencies to a monotonic increase in the reported usefulness of the statements to the functioning administrator. These findings, both in their micro and macro aspects, provide the strongest evidence yet available that the vast majority of allied health educational administrators receive little or no formal training in needed administrative skills.

REFERENCES

Association of American Medical Colleges. The objectives of undergraduate medical education. Journal of Medical Education 28, 1953, 57-59.

Comroe, Jr., Julius H. Objectives of medical education: The effect of research emphasis on these (sic). Journal of Medical Education 37:12, Part 2, 1961, 17-20.

Cundiff, Ellsworth. Teacher competencies as a basis for curriculum development in health occupations education. Unpublished doctoral dissertation, The University of Florida, 1972. University Microfilms No. 73-15, 568.

Elam, Stanley. Performance based teacher education: What is the state of the art? Washington, D.C.: American Association of Colleges for Teacher Education, December 1971.

Florida Department of Education. The Florida Catalog of Teacher Competencies. Tallahassee: Author, January 1, 1973.

Houston, Robert W. (ed.). Exploring competency based education. Berkeley: McCutchan, 1974.

Menges, Robert J. Assessing readiness for professional practice. Review of Educational Research 45, 1975, 173-207.

Morgan, Margaret K., and Albert A. Canfield. Administrative competencies in education and the allied health professions. Gainesville: The Center for Allied Health Instructional Personnel, December 1972.

Nie, Norman, et al. Statistical package for the social sciences. New York: McGraw-Hill, 1975 (second edition).

Stake, Robert E. Objective, priorities, and other judgment data. Review of Educational Research 40, 1970, 181-212.

Thomas, Adele K., and Patrician M. Kay. Determining priorities among competencies: Judgments of classroom teachers and supervisors. In Houston, Robert W. (ed.). Exploring competency based education. Berkeley: McCutchan, 1974.

Smith, Ralph A. (ed.). Regaining Educational Leadership: Critical Essays on PBTE/CBTE, Behavioral Objectives and Accountability. New York: John Wiley & Sons, 1975.

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